

WHAT IS CLAIMED IS:

1        A method in a cellular telecommunications  
2        network of constructing a list of cells comprising at  
3        least one cell in which network resources are to be  
4        allocated to perform a requested service, said method  
5        comprising the steps of:

6              determining each particular cell's capability to  
7        provide the requested service; and

8              building a cell list comprising only cells that can  
9        provide the requested service.

1        2. A method in a cellular telecommunications  
2        network of allocating network resources to perform a  
3        requested service, said method comprising the steps of:

4              determining each particular cell's capability to  
5        provide the requested service prior to allocating network  
6        resources in that cell; and

7              allocating network resources only in the cells that  
8        can provide the requested service.

1        3. The method of allocating network resources of  
2        claim 2 further comprising, before the step of allocating  
3        network resources, the step of building a cell list  
4        comprising only cells that can provide the requested  
5        service.

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1           4. The method of allocating network resources of  
2 claim 3 wherein the network resources are paging  
3 resources for paging a mobile station, and the step of  
4 determining each particular cell's capability to provide  
5 the requested service includes determining the capability  
6 of each particular cell in a location area (LA) to  
7 provide the requested service.

1           5. The method of allocating network resources of  
2 claim 4 further comprising paging for the mobile station  
3 only in the cells of the LA that can provide the  
4 requested service.

1           6. The method of allocating network resources of  
2 claim 5 further comprising the steps of:

3           determining that the mobile station did not respond  
4 to the paging in the LA;

5           building a cell list for a paging area (PA)  
6 comprising only cells that can provide the requested  
7 service; and

8           paging for the mobile station only in the cells of  
9 the PA that can provide the requested service.

1           7. The method of allocating network resources of  
2 claim 6 further comprising the steps of:

3           determining that the mobile station did not respond  
4 to the paging in the PA;

5           building a cell list for a service area (SA)  
6 comprising only cells that can provide the requested  
7 service; and

8           paging for the mobile station only in the cells of  
9 the SA that can provide the requested service.

1           8. A system for constructing a list of cells  
2 comprising at least one cell in which network resources  
3 are to be allocated to perform a requested service, said  
4 system comprising:

5           a capabilities database that stores information  
6 identifying each particular cell's capability to provide  
7 each of a plurality of services;

8           a processor that compares the requested service to  
9 the information stored in the capabilities database for  
10 each cell in order to determine each cell's capability to  
11 provide the requested service; and

12          a resource controller that builds a cell list  
13 comprising only cells that can provide the requested  
14 service.

1           9. A system for allocating network resources in a  
2       cellular telecommunications network to perform a  
3       requested service, said system comprising:

4                 a capabilities database that stores information  
5       identifying each particular cell's capability to provide  
6       each of a plurality of services;

7                 a processor that compares the requested service to  
8       the information stored in the capabilities database for  
9       each cell in order to determine each cell's capability to  
10      provide the requested service; and

11                 a resource controller that allocates network  
12      resources only in the cells that can provide the  
13      requested service.

1           10. The system for allocating network resources of  
2       claim 9 wherein the network resources are paging  
3       resources for paging a mobile station, and the  
4       capabilities database stores information identifying the  
5       capability of each particular cell in a location area  
6       (LA) to provide each of the plurality of services.

1           11. The system for allocating network resources of  
2       claim 10 wherein the processor compares the requested  
3       service to the information stored in the capabilities  
4       database for each cell in the LA in order to determine

5 the capability of each cell in the LA to provide the  
6 requested service.

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2                          12. The system for allocating network resources of  
3                          claim 11 further comprising a cell list database that  
4                          stores cell lists comprised only of cells that can  
provide the requested service.

1                          13. The system for allocating network resources of  
2                          claim 12 wherein the cell list database includes:  
3                          a cell list comprised only of cells in the LA that  
4                          can provide the requested service;  
5                          a cell list comprised only of cells in a paging area  
6                          (PA) that can provide the requested service; and  
7                          a cell list comprised only of cells in a service  
8                          area (SA) that can provide the requested service.

1                          14. The system for allocating network resources of  
2                          claim 13 further comprising a paging mechanism that  
3                          retrieves the cell list for the LA from the cell list  
4                          database and pages for the mobile station only in the  
5                          cells of the LA that can provide the requested service.

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1       15. The system for allocating network resources of  
2 claim 14 wherein the paging mechanism determines whether  
3 the mobile station responded to the paging in the LA, and  
4 if not, retrieves the cell list for the PA from the cell  
5 list database and pages for the mobile station only in  
6 the cells of the PA that can provide the requested  
7 service.

1       16. The system for allocating network resources of  
2 claim 15 wherein the paging mechanism determines whether  
3 the mobile station responded to the paging in the PA, and  
4 if not, retrieves the cell list for the SA from the cell  
5 list database and pages for the mobile station only in  
6 the cells of the SA that can provide the requested  
7 service.

1       17. The system for allocating network resources of  
2 claim 11 wherein the processor includes programming to  
3 compare the requested service to the information stored  
4 in the capabilities database for each cell in the  
5 network's service area in order to build a cell list for  
6 each LA in the service area, a cell list for each paging  
7 area (PA) in the service area, and a cell list for the  
8 entire service area, each of the cell lists comprising  
9 only cells that can provide the requested service.